20. (Amended) The computer-readable medium of claim 19 further comprising:

using at least four point pairs to compute a georeferencing function for the first map based on a linear transformation;

further comprising executing a validation check; and

rejecting a point pair when the point pair deviates a predetermined amount from a predetermined standard error.

A 20 cont.

REMARKS

This is in reply to the Examiner's Official Action dated October 2, 2002. By this Amendment, the specification, and claims 1, 4, 11, 13, 14 and 16-20 have been amended, and claims 5 and 15 have been cancelled to more appropriately describe and claim the invention. Upon entry of the Amendment, claims 1-4, 6-14, and 16-20 will remain pending. The above amendment with the following remarks are submitted to be fully responsive to the Official Action. Reconsideration of this application in light of these remarks, and allowance of this application are respectfully requested.

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I. Specification

On page 2 of the Official Action, the Examiner objected to the Abstract and Title of the disclosure because they "are duplicated (sic) of abstract and title of a continuation U.S. application 09/537[,]849. According to the Manual for Patent Examining Procedures (MPEP), "where the title is not descriptive of the invention claimed, the examiner should require substitution of a new title that is clearly indicative of the invention to which the claims are directed." MPEP at § 606.01. With respect to abstracts, the MPEP later provides that:

> [t]he content of a patent abstract should be such as to enable the reader thereof, regardless of his or her familiarity with patent documents to ascertain quickly the character of the subject matter covered by the technical disclosure and should include that which is new in the art to which the invention pertains.

(Id. at 606.01(b).) Neither section of the MPEP requires amendment of the title or abstract simply because they are duplicative of a title and/or abstract in another application. Applicants respectfully assert that as required by the MPEP, the title is descriptive of the invention as claimed, and the abstract enables a reader to ascertain the character of the subject matter covered by the technical disclosure and generally includes that which is new in the art to which the invention pertains. Therefore, Applicants request that the Examiner reconsider and withdraw his objection to the title and abstract.

Applicants have corrected minor typographical errors in the specification.

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II. Rejection of Claims Under 35 U.S.C. § 102(b)

On page 2 of the Official Action, the Examiner rejected claims 1-20 under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 6,084,989 to Eppler (hereinafter, Eppler).

The present invention as recited in amended independent claim 1 is directed to a method for georeferencing a raster map, comprising: displaying a first map and a second map, the first map being a digital raster map, and the second map being a previously georeferenced map, wherein the first map is similar to the second map; receiving an entry identifying a first point on the first map, wherein the first point is a pixel location having an x-coordinate and a y-coordinate; receiving an entry identifying a second point on the second map, the second point having approximately the same location on the second map as the first point has on the first map; assigning the point on the first map a longitude coordinate and a latitude coordinate, the longitude coordinate and the latitude coordinate of the first point being identical to a longitude coordinate and a latitude coordinate associated with the point on the second map; and creating a georeferencing function to define a relationship between a pixel location on the first map and a longitude coordinate and a latitude coordinate on the second map. Independent claim 14 similarly recites an apparatus for performing the method recited in claim 1, and independent claim 19 recites a computer-readable medium that contains instructions for performing the method in claim 1.

In contrast, Eppler discloses a method and system for determining offset errors between line and pixel coordinates of landmarks in a digitized image generated by an imaging system (satellite), and line and pixel coordinates predicted by a mathematical

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model of the imaging system using landmark geodetic coordinates on the Earth. In operation, a digitized image generated by a satellite is processed to extract a patch of the image containing a particular landmark. The absolute coordinates of the upper left corner of the patch of the image are determined (col. 2, lines 13-15.) A list of coordinates for the corresponding landmark stored in the database is processed through a mathematical model of the imaging system to generate absolute coordinates of the boundary pixels of the landmark (col. 2, lines 20-24.) Software algorithms generate row and column offset error values indicative of the offset between the actual position of the landmark and the desired position of the landmark in the image (defined by the landmark geodetic coordinates stored in the database) (col. 2, lines 32-37.) Alternatively, an operator may use a cursor on an interactive image display to designate the line-pixel address associated with geodetic coordinates of salient features marked on hardcopy maps. The landmark position system processes the supplied data to generate line and pixel error values corresponding to the offset errors. The errors are supplied to an attitude tracking system which generates orbit and attitude prediction coefficients for the satellite (col. 5, lines 18-25.)

Eppler fails to disclose at least a capability to create a georeferencing function to define a relationship between a pixel location on the first map and a longitude coordinate and a latitude coordinate on the second map.

In Eppler, line and pixel offset error values indicative of the offset between the predicted position of the landmark and the actual position of the landmark in the image are generated. Eppler specifically provides that only islands and lakes are used as landmarks. Even assuming, *arguendo,* that Eppler could be modified to use a single

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pixel to create a georeferencing function, the modification would not be responsive to the problem sought to be addressed by Eppler (i.e., to generate orbit and attitude prediction coefficients for the satellite.) In other words, Eppler does not create a georeferencing function to define a relationship between a pixel location on a first map and a longitude coordinate and a latitude coordinate on a second map. Instead, Eppler calculates offset errors between a map image and an image captured by a satellite. The satellite image does not contain an image coordinate system or a georeferenced coordinate system. Moreover, Eppler specifically teaches away from creating a georeferencing function to define a relationship between a pixel location on a first map and a longitude coordinate and a latitude coordinate on a second map when it provides that "[i]t is also important that the landmark have the proper size, shape, and orientation. It is best to locate square or round features that span approximately 12 lines and 21 pixels in the image." (col. 16, lines 18-21.)

Anticipation under 35 U.S.C. §102(b) requires that each and every claim limitation be disclosed by the applied reference. Eppler does not teach each and every claim limitation of claims 1-20 and therefore, as a matter of law, cannot anticipate these claims. That is, Eppler does not teach the process of creating a georeferencing function to define a relationship between a pixel location on the first map and a longitude coordinate and a latitude coordinate on the second map.

In the Official Action, the Examiner recognizes that some of the features claimed are not disclosed, taught, or suggested by Eppler, and he alleges that they all would have been inherent in Eppler. Applicants respectfully disagree.

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To properly show that an element not disclosed in Eppler is, in fact, inherent in that reference, the Examiner should cite extrinsic evidence, such as an extra reference, that describes the inherent element. See M.P.E.P. § 2131.01(III) (8th ed. 2001). "Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be recognized by persons of ordinary skill." Id. Inherency, however, may not be established by probabilities or possibilities. See M.P.E.P. § 2163.07(a) (8th ed. 2001). In this case, the Examiner provides no reference or other evidentiary basis to support the inherency allegation.

Even though the cited reference fails to reach the teachings of Applicants' device, Applicants have amended claims 1, 4, 11, 13, 14 and 16-20, and canceled claims 5 and 15, to more appropriately describe Applicants' invention. Applicants contend that the claims as amended, still patentably distinguish over the prior art. Therefore, the rejection of independent claims 1, 14, and 19 under 35 U.S.C. §102(b) as anticipated by Eppler should be withdrawn. The rejection of dependent claims 2-4, 6-13, 16-18, and 20 should also be withdrawn as they depend on allowable subject matter as recited in the respective independent claims from which they directly or indirectly depend.

III. Claim Objections

On page 5 of the Official Action, under the heading of "Double Patenting," the Examiner objected to claims 14-20 under 37 C.F.R. § 1.75 as being a substantial duplicate of claims 1-13. It is not clear whether the Examiner is objecting to the claims under double patenting, or if the Examiner is objecting to the claims as being a substantial duplicate of each other. In either event, Applicants respectfully disagree.

According to the MPEP:

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> [d]ouble patenting results when the right to exclude granted by a first patent is unjustly extended by a later issued patent or patents. Before consideration can be given to the issue of double patenting, <u>there must be some common relationship of inventorship and/or ownership of two or more patents or applications</u>.

MPEP § 804 (emphasis added) In this case, the Examiner has only identified the claims in the present application as being substantial duplicates of each other. Therefore, the Examiner has failed to provide sufficient information to allow Applicants to respond to a double patenting objection. Applicants therefore respectfully request that the Examiner either withdraw the double patenting objection or provide more information to allow the Applicants to fully respond to the objection.

If the Examiner is objecting to the claims as substantial duplicates of each other, Applicants again request additional information. In the Official Action, the Examiner provided that:

> [w]hen two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, <u>it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claims</u>.

(October 2, 2002 Official Action, <u>quoting</u> MPEP § 706.03(k)) (emphasis added). In this case, no claims have been allowed. The MPEP further provides that, "[c]ourt decisions have confirmed applicant's right to restate (i.e., by plural claiming) the invention in a reasonable number of ways. Indeed, a mere difference in scope between claims has been held to be enough." MPEP § 706.03(k). Here, claims 1-13 are directed to a <u>method</u> for georeferencing a raster map image, claims 14-18 are directed to an <u>apparatus</u> for georeferencing a raster map, and claims 19-20 are directed to a <u>computer-readable medium</u> containing instructions for performing the method recited in

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claim 1. Since the scope of the claims are clearly distinct, and no claims have been allowed, Applicants respectfully request that the Examiner either withdraw the objection, or provide more information to allow the Applicants to fully respond to it.

In view of the foregoing amendments and remarks, Applicant respectfully requests the reconsideration and reexamination of this application and the timely allowance of the pending claims.

Finally, Applicants submit that the entry of the Amendment would place the application in better form for appeal, should the Examiner continue to dispute the patentability of the pending claims.

Applicants, therefore, request the entry of this Amendment, the Examiner's reconsideration of the application, and the timely allowance of the pending claims.

Attached hereto is a marked-up version of the changes made to the claims by this amendment. The attached page is captioned "**<u>Version with markings to show changes made</u>**." Deletions appear as normal text surrounded by [ ] and additions appear as underlined text.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: March 3, 2003

By: ______________________
Leonard Smith, Jr.
Reg. No. 45,118

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please amend the second full paragraph on page 2 of the specification to read as follows:

Also because vector maps are commonly drawn from a geographic data set describing the area shown, they are very easily, and generally inherently, georeferenced. Georeferencing is the process of relating source coordinates to referenced geographic coordinates[.], which are typically in standard latitude/longitude. An image or a vector file is georeferenced to be used within a mapping/geographic environment. In a vector map, the data from which the map is drawn will typically already include a geographic coordinate set.

Please amend the first paragraph on page 10 of the specification to read as follows:

When four or more georeferencing point-pairs are determined, the general linear georeferencing functions are over-determined. This means that more than the required amount of information to compute the general linear georeferencing functions is available, but that it is not, in general, completely consistent. The system [use] <u>uses</u> the extra information contained in the additional georeferencing points to provide validation checks to protect against the possibility that some of the data points may be inaccurate **(step 430)**. Points that deviate excessively with respect to a

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calculated standard error are presumed to be inaccurate and are omitted from the calculation of the georeferencing functions. Note that as new [point] points are added, the system also rechecks points previously marked as inconsistent, to determine if those points should now be considered when recomputing the georeferencing functions.

Please amend the third and the fourth full paragraphs on page 10 of the specification to read as follows:

The user may then proceed [o] to enter the next point-pair **(step 440)**[ ]. When the user is finished, the system stores the active georeferencing functions with the raster-map **(step [is]445)**. At this time, the raster map is considered fully georeferenced. When accessed at any future time, the system may simply retrieve the georeferencing functions, and apply them to find the latitude and longitude of any point on the raster map.

The process of determining [he] the georeferencing function set from a set of point-pairs is believed to be within the ability of one of ordinary skill in the art. The specific approach used by the system [an] and method of the preferred embodiment is discussed below.

Please amend the first full paragraph on page 11 of the specification to read as follows:

$$\hat{f}(x_i, y_i) = (Lon_i, Lat_i) \quad for\ i \in A \qquad \underline{(1)}$$

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Please amend the second full paragraph on page 11 of the specification to read as follows:

Once determined, $\hat{f}$ will [b] <u>be</u> the georeferencing function which is used to compute corresponding latitude and longitude values[,] (Lon, Lat) for any point[,] (x, y) on the bitmap. There are any number of possible ways to define the function that "comes closest<u>"</u> to making (1) true.["] We shall follow a "least squares" approach also known in mathematics as an L_2 approach. This approach seeks to find the function, $\hat{f}$, which minimizes the sum of the squared differences between the actual and the predicted values of latitude and longitude. In other words, from among all the functions $f \in F$, $\hat{f}$ is the one which minimizes:

Please amend the fourth full paragraph on page 11 of the specification to read as follows:

Among various alternative methods for choosing the function $\hat{f}$ are choosing it so [t ht] <u>that</u> it minimizes the sum of absolute errors (rather than squared errors<u>)</u>, or so that it minimizes the largest error. Other criteria are also possible.

Please amend the second paragraph on page 12 of the specification to read as follows:

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The General Linear Case: In the general linear case, we let F be the set of all possible linear transformations which map from (x, y) to (Lon, Lat). Thus,

$$\hat{f}(x,y) = \begin{bmatrix} \hat{a}_{11} & \hat{a}_{12} \\ \hat{a}_{21} & \hat{a}_{22} \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} + \begin{bmatrix} \hat{b}_1 \\ \hat{b}_2 \end{bmatrix} \qquad (3)$$

for some choice of parameters $\hat{a}_{11}$, $\hat{a}_{12}$, $\hat{a}_{21}$, $\hat{a}_{22}$, $\hat{b}_1$, and $\hat{b}_2$. If the region covered by the map to be georeferenced is not too large, then this family of functions will contain a suitable function[,] $\hat{f}$ whose total error is quite small. In the case where the map to be georeferenced covers a larger area than this, then the curvature of the earth must be taken into account and F is not a suitable family of functions. In such a case, nonlinear functions must be used as mentioned above. We shall not pursue that case further, since it is a straightforward extension of the procedures used in the linear case.

Please amend the third paragraph on page 12 of the specification to read as follows:

To find $\hat{f}$ we seek the parameters which minimize

$$SSE = \sum_{i \in A} (a_{11}x_i + a_{12}y_i + b_i - Lon_i)^2 + (a_{21}x_i + a_{22}y_i + b_2 - Lat_i)^2 . \qquad \underline{(4)}$$

The parameter values which minimize this expression are found by solving the following two independent systems of linear equations:

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Please amend the first paragraph on page 13 of the specification to read as follows:

These systems can be easily [solve] solved by well-known methods, such as Gaussian Elimination[,] or LU factorization. The solutions yield the desired values of $\hat{a}_{11}$, $\hat{a}_{12}$, $\hat{a}_{21}$, $\hat{a}_{22}$, $\hat{b}_1$, and $\hat{b}_2$. It should be noted that equations (5a) and (5b) do not have a unique solution unless three or more non-colinear points are contained in A. Generally speaking, then, it requires 3 points to choose a georeferencing function from the family of general linear transformations. When there are four points or more, it is possible to compute a standard deviation of errors using the formula:

$$s = \sqrt{\frac{\sum_{i \in A}\left[\left(\hat{a}_{11}x_i + \hat{a}_{12}y_i + \hat{b}_1 - Lon_i\right)^2 + \left(\hat{a}_{21}x_i + \underline{a22yi} + \hat{b}_2 - Lat_i\right)^2\right]}{n-3}} \quad (6)$$

where s is an estimator for the amount of error to be expected between actual and predicted latitude and longitude values.

Please amend the second, third and fourth paragraphs on page 15 of the specification to read as follows:

The parameter values which minimize this expression are found by solving the following system of linear equations:

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$$\begin{bmatrix} n & 0 & \sum x_i & -\sum y_i \\ 0 & n & -\sum y_i & -\sum x_i \\ \sum_{i\in A} x_i & -\sum_{i\in A} y_i & \sum_{i\in A}\left(x_i^2+y_i^2\right) & 0 \\ -\sum_{i\in A} y_i & -\sum_{i\in A} x_i & 0 & \sum_{i\in A}\left(x_i^2+y_i^2\right) \end{bmatrix} \begin{bmatrix} \beta_1 \\ \beta_2 \\ \beta_3 \\ \beta_4 \end{bmatrix} = \begin{bmatrix} \gamma\sum_{i\in A} Lon_i \\ \sum_{i\in A} Lat_i \\ \gamma\sum_{i\in A} x_i Lon_i - \sum_{i\in A} y_i Lat_i \\ -\gamma\sum_{i\in A} y_i Lon_i - \sum_{i\in A} x_i Lat_i \end{bmatrix} \quad \underline{(8)}$$

These systems can <u>be</u> easily solved by well-known methods, such as Gaussian Elimination[,] or LU factorization. The solutions yield the [desire] <u>desired</u> values of $\hat{\beta}_1$, [$\hat{\beta}_1$] $\underline{\hat{\beta}_2}$, [$\hat{\beta}_1$] $\underline{\hat{\beta}_3}$, and [$\hat{\beta}_1$] $\underline{\hat{\beta}_4}$, which in turn yield the desired values for $\hat{a}_{11}$, $\hat{a}_{12}$, $\hat{a}_{21}$, $\hat{a}_{22}$, $\hat{b}_1$, and $\hat{b}_2$.

It should be noted that equation (8) does not have a unique solution unless two or [m re] <u>more</u> points are contained in A. Generally speaking, then it requires two points to determine a georeferencing function from the family of rotational linear transformations. When there are three points or more, it is possible to compute a standard deviation of error, s using the formula:

Please amend the second full paragraph on page 16 of the specification to read as follows:

Automatic Error Detection and Handling

When individual points are being assigned x, y, Lon, and Lat values, there is always a potential for error. To reduce the risk of incorrect georeferencing resulting from such errors, certain error handling

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procedures are built into the georeferencing process. The fundamental concept is that of detecting a "bad" point and then removing it from the set of active points, A. Note that removing a bad point from A will not delete the information [associate,] associated with that point, but it will cause the georeferencing parameters to be completely uninfluenced by that point. We [o] do not wish to remove the point entirely, since it may be determined at a later stage of the georeferencing, that the point was not really bad at all, and should be[-] used in the georeferencing calculation. This will be clarified shortly.

Please amend the paragraph extending from page 16, line 20 to page 17, line 5, of the specification to read as follows:

Detecting Bad Points The following steps outline the bad point detection process using the general linear transform approach to georeferencing.

1. Begin by placing all existing points into the active set, A.

2. If there are fewer than five active points then you are done[,]. Otherwise, for each of the currently active points in turn, move it (call it point k for the sake of convenience) temporarily out of the active set, and then calculate the resulting inverse georeferencing function (call it $\hat{g}^{(k)}$) and its corresponding SSE_k. Also, calculate the difference between the predicted value and the actual value $\delta_k = \left|\hat{g}^{(k)}(Lon_k, Lat_k) - (x_k, y_k)\right|$. Make

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a note of the values, $\delta_k and {}^{\delta_k}/_{SSE_k}$. Return point k to the active set [(]and move on to the next value of k .

Please amend the third paragraph on page 17 of the specification to read as follows:

There are several things to note about this procedure. One is that it [allowing] <u>allows</u> the value of c_1 and c_2 to change with the number of active points, [makes] <u>making</u> it possible for the georeferencing system and method to utilize points which it might originally determine bad or inconsistent after a large enough sample of points has been gathered to make it clear that a lesser level of accuracy is all that can be achieved on this map. Another observation is that <u>by</u> using this procedure it is impossible to reduce the number of active points [down] to less than four (unless you started with less than 4 in which case this procedure does not apply at all). This scheme means that as each new point is added, all points determined so far are considered, even those [which] <u>that</u> had previously been marked bad. Thus early "misjudgments" on the part of the system can be corrected later, in light of new point information.

Please amend the paragraph extending from page 18, line 9 to page 19, line 4, of the specification to read as follows:

A specific example of the operation and application of the preferred georeferencing method may be shown with reference to the "Flood Zone Determination" business. The Federal Emergency Management Agency

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(FEMA) publishes a library of tens of thousands of paper maps showing various types of flood zones and their locations in the United States. A flood zone determination on a property is frequently done in the following way:

1. The address of the property is examined, and the location of the property is determined (perhaps through the use of a geocoding system, or [b] <u>by</u> examining an available street map).

2. A map analyst attempts to determine which of the many thousands of FEMA flood maps will contain this property.

3. The map analyst goes to a map storage area and retrieves the desired map, often examining several maps before making a final selection.

4. Having retrieved the paper map, the map analyst next determines where, precisely, the property is located on the map.

5. Finally, the map analyst examines flood zone notations on the map at the property's location in order to determine its flood-zone status.

Please amend the second full paragraph on page 19 of the specification to read as follows:

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Using georeferenced flood map raster images, steps 2 and 4 above, are replaced by:

2. A computer system combines the pre-designated outlines of the raster map and the georeferencing information to obtain a polygon expressed in terms of latitude and longitude that outlines the region included in each flood map. Then the system determines which of the polygons contain the address in question, which is done using a "point-in-polygon" algorithm. At the conclusion of this process, the computer system has identified a map panel (or perhaps a small number of map panels) that contains the address.

4. Since the latitude and longitude of the property are known (by virtue of a geocoding phase), the computer system can use the georeferencing of the map panels to locate the property on each of the panels found above, thus largely eliminating any need for [he] <u>the</u> map analyst to scan the flood map for the address location<u>.</u>

<u>IN THE CLAIMS:</u>

Please amend claims 1, 4, 11, 13, 14 and 16-20, as follows:

1. (Amended) A method [of] <u>for</u> georeferencing a raster map, comprising:

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[providing for display] displaying a first map and a second map, the first map being a digital raster map, and the second map being a previously georeferenced map, wherein the first map is similar to the second map;

[the fist map being substantially similar to the second map when displayed;]

receiving an entry identifying a first point [pair point] on the first map, wherein the first point is a pixel location having an x-coordinate and a y-coordinate;

receiving an entry identifying a second point [pair point] on the second map, the second point [pair point] having approximately the same location on the second map as the first point [pair point] has on the first map;

assigning [a] the point [pair point] on the first map a longitude coordinate and a latitude coordinate, the longitude coordinate and the latitude coordinate of the first point [pair point] being identical to a longitude coordinate [point] and a latitude coordinate [point] associated with [a] the point [pair point] on the second map; and

creating a georeferencing function to define a relationship between a pixel location on the first map and a longitude coordinate and a latitude coordinate on the second map.

4. (Amended) The method of claim 1 wherein the point [pair point] on the first map has a previously determined longitude and latitude.

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11. (Amended) The method of claim 10 further comprising rejecting a point [pair] when the point [pair] deviates a pre-determined amount from a pre-determined standard error.

13. (Amended) The method of claim 1 further comprising:

receiving a selection of a point [pair] on the first map, and

receiving a selection of a point [pair] on the second map.

14. (Amended) [A method in a computer system] <u>An apparatus</u> for georeferencing a raster map, the [method capable of transforming the computer system into a specific processing machine, by] <u>apparatus comprising</u>:

[providing for display] <u>means for displaying</u> a first map and a second map, the first map being a digital raster map, and the second map being a previously georeferenced map<u>, wherein the first map is similar to the second map</u>;

[the fist map being substantially similar to the second map when displayed;]

<u>means for</u> receiving an entry identifying a first point [pair point] on the first map<u>, wherein the first point is a pixel location having an x-coordinate and a y-coordinate</u>;

<u>means for</u> receiving an entry identifying a second point [pair point] on the second map, the second point [pair point] having approximately the same location on the second map as the first point [pair point] has on the first map;

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means for assigning [a] the point [pair point] on the first map a longitude coordinate and a latitude coordinate, the longitude coordinate and the latitude coordinate of the first point [pair point] being identical to a longitude coordinate [point] and a latitude coordinate [point] associated with [a] the point [pair point] on the second map; and

means for creating a georeferencing function to define a relationship between a pixel location on the first map and a longitude coordinate and a latitude coordinate on the second map.

16. (Amended) The [method] apparatus of claim 14 further comprising means for receiving a mark on the first map at a location, and reproducing the mark on the second map at a corresponding location.

17. (Amended) The [method] apparatus of claim 14 further comprising means for using at least four point pairs to compute a georeferencing function for the first map based on a linear transformation, and further comprising executing a validation check.

18. (Amended) The [method] apparatus of claim 17 further comprising means for rejecting a point pair when the point pair deviates a predetermined amount from a predetermined standard error.

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19. (Amended) A computer readable medium containing instructions executable by a computer to perform a method to georeference a raster map, the method comprising [whose contents enable the georeferencing of a raster map, by]:

[providing for display] displaying a first map and a second map, the first map being a digital raster map, and the second map being a previously georeferenced map, wherein the first map is similar to the second map;

[the fist map being substantially similar to the second map when displayed;]

receiving an entry identifying a first point [pair point] on the first map, wherein the first point is a pixel location having an x-coordinate and a y-coordinate;

receiving an entry identifying a second point [pair point] on the second map, the second point [pair point] having approximately the same location on the second map as the first point [pair point] has on the first map;

assigning [a] the point [pair point] on the first map a longitude coordinate and a latitude coordinate, the longitude coordinate and the latitude coordinate of the first point [pair point] being identical to a longitude coordinate [point] and a latitude coordinate [point] associated with [a] the point [pair point] on the second map; and

creating a georeferencing function to define a relationship between a pixel location on the first map and a longitude coordinate and a latitude coordinate on the second map.

20. (Amended) The [method] computer-readable medium of claim 19 further comprising:

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using at least four point pairs to compute a georeferencing function for the first map based on a linear transformation;

further comprising executing a validation check; and

rejecting a point pair when the point pair deviates a predetermined amount from a predetermined standard error.

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